

Patent claims

1. A process for removing a removal region (10),  
in particular a corrosion product (10),  
of a component (1),  
in which the removal region (10), prior to final cleaning, is  
pretreated in such a way  
that the removal region (10) is damaged,  
by a larger attackable surface area being produced by a salt  
attack,  
in particular by a fused salt,  
so that then a material-removal rate during the final cleaning  
of the removal region (10) is greater than without the damage  
to the removal region (10),  
the salt sodium sulfate ( $\text{Na}_2\text{SO}_4$ ) and/or cobalt sulfate ( $\text{CoSO}_4$ )  
being used for the salt attack.

2. The process as claimed in claim 1,  
characterized in that

the damage to the removal region (10) is produced in such a  
manner as to produce a larger attackable surface area.

3. The process as claimed in claim 1, 2 or 3,  
characterized in that

cracks (25, 31), which damage the removal region (10),  
are produced in the removal region (10).

4. The process as claimed in claim 1,  
characterized in that

delaminations (34) are produced between the removal region (10)  
in layer form and a surface (13)  
on which the removal region (10) is arranged.

5. The process as claimed in claim 1, 2, 3, 4, 6 or 7,  
characterized

in that a material (16) is applied to the removal region (10)  
in order to damage the removal region (10), and  
in that the material (16) is applied in the form of a slurry.

6. The process as claimed in claim 1, 2, 3, 4, 6 or 7,  
characterized in that

a material (16) is applied to the removal region (10)  
in order to damage the removal region (10), and  
in that the material (16) is laid on the removal region (10) in  
the form of a sheet.

7. The process as claimed in claim 8 or 9,  
characterized in that

the material (16)  
which is present on the removal region (10)  
is heated.

8. The process as claimed in claim 10,  
characterized in that

the component (1) is heated,  
in particular only locally in the removal region (10).

9. The process as claimed in claim 10 or 11,  
characterized in that

the heating of the material (16),  
in particular the local heating,  
is effected by a light source, in particular by a laser (19).

10. The process as claimed in claim 10 or 11,  
characterized in that

the heating,  
in particular the local heating,  
is generated by electromagnetic induction.

11. The process as claimed in claim 10 or 11,  
characterized in that

the heating,  
in particular the local heating,  
is generated by means of microwaves.

12. The process as claimed in claim 1,  
characterized in that

the removal region (10) is a corrosion product,  
and in that the process removes the corrosion products (10)  
aluminum oxide ( $\text{Al}_2\text{O}_3$ ) and/or cobalt oxide ( $\text{CoO}_2$ ) and/or  
titanium oxide ( $\text{TiO}_2$ ).

13. The process as claimed in claim 1, 2, 3, 4 or 5,  
characterized in that

the damage to the removal region (10) is effected by sand-  
blasting.

14. The process as claimed in claim 1, 2, 3, 4 or 5,  
characterized in that

the damage to the removal region (10) is effected by a thermal  
shock.

15. The process as claimed in claim 17,  
characterized in that

the thermal shock is generated by at least partial melting and  
subsequent cooling of the removal region (10).

16. The process as claimed in claim 18,  
characterized in that

the melting is effected by a laser (28).

17. The process as claimed in claim 1,  
characterized in that

a fluoride ion cleaning (FIC) of the component (1) is carried  
out as the final cleaning  
in order to completely remove the removal region (10).

18. The process as claimed in claim 20,  
characterized in that

in one of the final process steps, the damaged removal region  
(10) is completely removed by an acid treatment.

19. The process as claimed in claim 1,  
characterized in that

the removal region (10) is present on a metallic substrate (4).

20. The process as claimed in claim 22,  
characterized in that

the substrate (4) is a nickel-base, cobalt-base or iron-base  
superalloy.

21. The process as claimed in claim 1,  
characterized in that

the removal region (10) is present as a layer on an MCrAlX layer,  
where M stands for at least one element selected from the group consisting of iron, cobalt or nickel,  
and X stands for yttrium and/or at least one rare earth element.

22. The process as claimed in claim 1 or 23,  
characterized in that

the removal region (10) is metallic.

23. The process as claimed in claim 1 or 23,  
characterized in that

the removal region (10) is ceramic.

24. The process as claimed in claim 1, 24 or 25,  
characterized in that

the metallic removal region (10), in particular as a layer,  
includes corrosion products.

25. The process as claimed in claim 1,  
characterized in that

the component (1) is a component (1) of a gas turbine (100) or steam turbine (300, 300), in particular a rotor blade or guide vane (120, 130) or a combustion chamber lining (155).

26. The process as claimed in claim 1 or 26,  
characterized in that

the process is carried out on a component (1)  
which is to be refurbished.